Revisiting valuation practices throughout the business cycle: some symmetry is needed

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The current crisis exposed weaknesses in the application of accounting standards and gaps associated with the valuation of financial products. During the upturn, the revaluation of assets, build-up of off-balance sheet claims, and booking of unrealised gains obscured risk exposures taken by financial institutions. But as we have learned, when the cycles turn, the downward trends and uncertainties in the value of assets may lead to negative dynamics that may exaggerate the trough of the cycle. This is generally accepted, but we need to be more symmetrical in our approach: increasing valuations in the upturns can also create the incentives, through more profits, compensations and dividends, to purchase more of the appreciating assets and thereby exacerbate the peak. All this raises legitimate questions regarding the role of risk management systems, accounting standards and regulations in creating adequate incentives and conveying information on a financial entity's risk profile throughout the business cycle. More fundamentally, it raises questions about whether marking-to-market provides the necessary objective representation or may contribute to mispricing of risk during upturns and injecting artificial risk during downturns and thus distorting the information value of prices.

Changing accounting standards at the height of the crisis would risk adversely impacting investor confidence and should be avoided. Furthermore, fair value accounting is the direction to go, but going forward, there is a need to revisit the implications of accounting standards on behavior and incentives, especially during good times, with a view to making possible adjustments to current accounting practices. Inconsistencies of accounting standards with best risk management practices and prudential norms can be very expensive for financial stability. Governance and risk management within financial institutions need to be improved, and supervisors should scrutinise more carefully internal processes and controls, as well as valuation and stress testing methodologies.

NB: The views expressed herein are those of the authors and should not be attributed to the IMF, its Executive Board, or its management.

Until mid-2007, global financial markets were characterised by low premia on financial assets which emboldened investors to venture down the "credit ladder" in search of higher returns. While the coming of a correction should not have been a surprise to anyone, several factors have contributed to turning a correction into a financial crisis. These include:

• lax underwriting standards, risk management failures, and compensation schemes that may have encouraged excessive risk taking;

• weaknesses in structured product design and pricing at origination, including lack of transparency about underlying risks of structured products, and shortcomings in modeling and valuation of such products;

• lack of investor due diligence and herding behavior, including weaknesses due to the inability to assess risks as investors accumulated their experience only during good times;

• and the collective failure to understand the magnitude and implications of the leverage accumulated by a wide range of institutions using existing and innovative financial mechanisms. The combination of a highly leveraged financial system and a sudden lack of confidence in the valuation of assets has proved to be quite harmful.

This article refers to two different but interrelated topics, valuation of financial instruments and fair value accounting. The current crisis exposed weaknesses in the implementation of accounting standards and gaps associated with the valuation of financial products. The role of these weaknesses in the financial crisis should not be exaggerated, but they have been important enough to require a thorough analysis of their impact. Current practices of marking-to-market, combined with inadequate valuation and risk management models, may have contributed to inefficiencies both by mispricing risk during the upturn and by injecting artificial risk premia during the ensuing downturn, and thus distorting the information value of prices. The abnormally tight market liquidity conditions during the crisis intensified discussions on the role of fair value in contributing to its severity.[1] While much effort is being devoted to improve valuation practices under market stress, the central thesis of this note is that a symmetrical treatment is needed. The seeds of the problem were planted in good times. It was then when leverage and excessive risk was accumulated, and therefore the specifics of fair value accounting and its implementation that may shape incentives in good times also need to be revisited. This note aims to contribute to this much-needed policy debate.

Changing accounting standards in the midst of the crisis would risk adversely affecting investor confidence and should be avoided. Fair value accounting should be maintained –alternative techniques have their own shortcomings. However, there is a need to revisit the implications of existing accounting standards on behavior and incentives, especially during good times, with a view to making possible adjustments. A strengthening of accounting standards to take into account their implications throughout the business cycle is needed to help eliminate or at least substantially reduce inconsistencies with best risk management practices and prudential norms. Prudential supervisors have a significant role to play and should scrutinise more carefully internal valuation processes and controls, as well as pricing and stress testing methodologies– especially during the upturn. All this makes it critical for regulators, accounting standard setters, and the industry to join forces to better align the supervisory, risk management and accounting guidelines. This is essential to safeguard financial stability.

VALUATION PRACTICES: IMPLICATIONS THROUGHOUT THE BUSINESS CYCLE

The main objective of accounting standard setters is to ensure that financial statement information is measured in a way that is clearly defined, economically meaningful, comparable across entities, and adequately disclosed. The financial statement information seeks to provide an understanding of a firm's value and the economic risks and potential rewards that it faces. This is a formidable task, especially for the financial

1 See Shin (H. S.) (2007).

sector, given the globalisation of the financial industry, rapid innovation, and the ever-increasing complexity of the instruments used. Furthermore, credit decisions and the allocation of capital depend on an assessment of firms' profitability, liquidity and solvency which are contained in published financial statements.

Historical cost accounting measures financial assets and liabilities at their origination value. This can lead to inefficiencies as adjustments are not made for subsequent changes in market value. Let us consider the value of an asset throughout a business cycle. During the upturn, the historical cost valuation may lead to an undervaluation of the asset, and conversely during the downturn the asset may be overvalued. Of particular concern for financial stability has been the distorting of incentives during the downturn as the reductions in the true economic value of assets could be masked. It is commonly felt that had accounting reflected underlying market values, the difficulties of US savings and loan institutions would have been recognised and addressed earlier, and perhaps at lower fiscal cost.[2]

In response to the shortcomings of historical cost accounting, an alternate approach seeking to more accurately reflect market valuations, fair value accounting, has been introduced. Fair value seeks to provide a measure of the economic value of a transaction that is understood by interested stakeholders. In the United States, the accounting guidance clarifies that fair value is an exit price, representing "the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date". International Financial Reporting Standards (IFRSs) defines fair value as the "amount for which an asset could be exchanged between knowledgeable willing parties in an arm's length transaction".

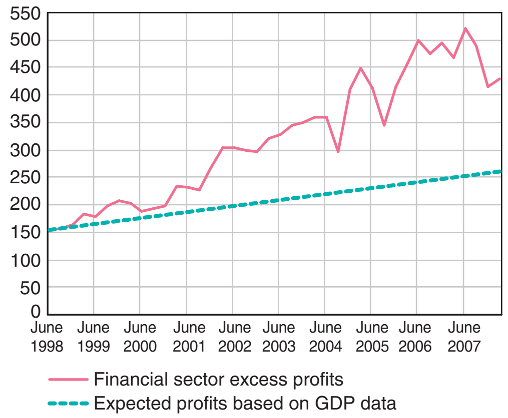
Let us now consider the value of an asset throughout the business cycle using fair value accounting. Marking-to-market assumes that financial markets are efficient and provide the best method to value a specific financial asset. Under normal conditions, fair market valuation should meet its objective of providing information about a bank's true risk profile and promote market discipline. However, markets are subject to uncertainties and cyclical changes.

2 *See Michael (2004); Jackson and Lodge (2004).*

To the extent that there are market tendencies to overshoot the underlying value of an asset both during upturns and downturns, the measured "fair" market value may diverge from the underlying economic value of an asset. In the upturn, asset price bubbles may be started by excess liquidity in the markets, which could then be compounded by remuneration and other incentives of market participants. This may lead to procyclical, self-reinforcing, and self-extending "write-ups." These valuation gains could lead to an increase in bank profits (see Chart 1) and capital, which in turn, through leveraging, could lead to further expansion of assets and liabilities either directly on their balance sheet or indirectly *via* specialised investment vehicles, and so on.

Why would such an expansion go unchecked? The upward revaluation of assets reflected in bank profits may lead to pressures on bank management to distribute dividends, including unrealised gains on the assets on banks' balance sheets. Because there is evidence that managers may try to produce smooth earnings per share, even if the initial change in market value was justified by changes in fundamentals, management might distort their choice of projects in ways that will amplify these changes. Under these conditions, there may be little incentive for shareholders, uninsured depositors and other debt holders to identify the risk exposures taken by financial institutions and put pressure on bank management to take corrective action at an early stage.

Chart 1
US financial sector profits versus expected profits based on GDP growth
(USD billions)



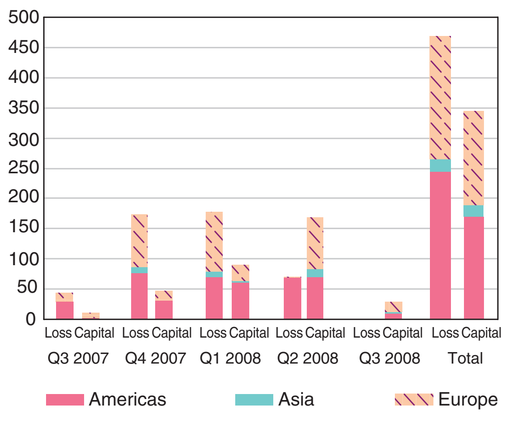
Source: Deutsche Bank.

It could be argued that in the upturn leading to the present crisis, liquidity risks were not properly taken into account. As a result, part of the recorded profits could have been liquidity risk premia that should have been provisioned. An analysis of how these risk premia have behaved throughout the cycle may help to identify the need for some adjustments in valuations to mitigate any overvaluations in future cycles.

When the cycle turns, the downward revaluation of assets may be rapid and severe (see Chart 2). The use of fair value accounting from the beginning of the cycle could itself exacerbate the overshooting of prices on the upside and therefore lead to a sharper fall during the downturn. Fair value reflects the sum of all the risks the market assigns to the asset, including credit and liquidity risks. However, markets are not always sucessful in pricing risks appropriately, and thus the fair value will reflect any overreaction of the market's assessment of these risk components. This is in part due to the fact that valuations "need to reflect current conditions and incorporate adjustments for risk, including liquidity, which other market participants would use to price the financial instruments".[3]

Accounting frameworks require professional judgment in determining the mechanisms for fair value, including the use of unobservable inputs in cases of the absence of an active market for an instrument. Such judgment allows the possibility of different outcomes for similar situations, which in times of market uncertainty may compound the risk of illiquidity (*Global Financial Stability Report*, April 2008). The interaction of fair value with specific covenants or triggers can further compound market illiquidity by leading to sales, margin calls or additional collateral requirements. As forced sales are triggered, fair valuations need to be applied across a number of portfolios even when there is no intention or need to sell at the full amount of the liquidity-induced discounts. This can further reduce financial institutions' supply of assets available for liquidity operations.

Chart 2
Losses/writedowns and capital raised by banks in the downturn
(USD billions)



Note: Writedowns and credit losses for 2008:Q3 have not yet been fully reported.
Source: Bloomberg LLP.

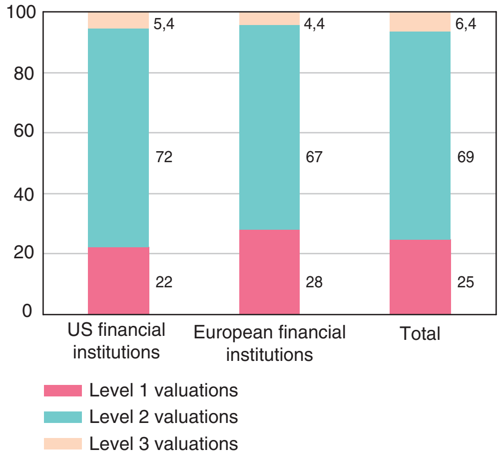
It should also be noted that fair value accounting is applied more extensively to financial assets than financial liabilities. This may produce accounting volatility that can disguise or distort the underlying economic substance. For example IAS 39 prevents the valuation of demand deposits at a value less than their face value, even if a significant portion of these display the economic characteristics of a term deposit. Furthermore, the application of fair value accounting on liabilities such as debt issued by an entity may lead to counter-intuitive effects in the event of a credit down-grade as this would produce notional profits for the entity (producing gains when the valuation of liabilities worsens). This is of particular concern when a deterioration in a bank's own credit worthiness, and the subsequent decline in value of own debt, results in profits and a false sense of improvement in the bank's equity position. It also raises prudential concerns and raises significant issues about the economic interpretation of this contradiction in a bank that is an ongoing concern.

IMPLICATIONS OF MODELING UNCERTAINTY

Fair value hierarchy prioritises the inputs to valuation techniques used to measure fair value. According to US GAAP, level 1 valuation requires observable prices for the same instrument in liquid markets. When observable prices are unavailable for the valuation date, level 2 valuation allows the use of prices on nearby dates, or the use of arbitrage-type valuation models that use the observable prices of other financial instruments or available indices. For instruments for which levels 1 and 2 valuations inputs are not available, level 3 valuation allows

3 See Ernst and Young (2007).

Chart 3
Fair value hierarchy
Aggregate fair value hierarchy – combines assets and liabilities (end 2007)
(%)



Source: Fitch Ratings.

the use of theoretical valuation models that use as inputs various relevant fundamental parameters ("mark-to-model" approach). As the chart shows, the use of levels 2 and 3 is quite significant.

As valuation moves from market prices to mark-to-model valuation, fair value accounting becomes less transparent and increasingly dependent on judgment, model assumptions and parameters, posing reliability challenges to which markets, particularly under distress, are sensitive. These "subjective" aspects of fair value accounting may accentuate the severity of the crisis by compounding market illiquidity or price spirals if they increase uncertainty around valuations.

In summary, weaknesses in models have also contributed to distorted valuations that may have reinforced market dynamics. However, it should be kept in mind that different market participants with similar models have behaved differently, indicating that failures in governance structures that support risk management and different assessments by management regarding market direction were also important.

Consolidation of off-balance sheet entities under stress

During the lead-up to the present crisis, several financial institutions seem to have not properly assessed the contingency risks which led to unexpected claims on their liquidity positions. In some cases, the consolidation of off-balance sheet claims were due to reputational concerns while in some others these claims represented contractual obligations and should have been consolidated in the first place.

As both accounting and supervisory rules govern consolidation, common principles need to be established. While Basel I did not adequately cover asset securitisation, Basel II attempts to provide a comprehensive framework to capture the associated risks. In particular, for securitisation exposures, the "clean-break" criteria must be met and the supervisor has to be satisfied that risk transfer has taken place. It should be noted that both International Accounting Standards Board (IASB) and Financial Accounting Standards Board (FASB) have moved promptly to address the underlying issues by substantially amending the relevant standards for consolidation and derecognition.

Need for policy dialogue and suggestions for moving forward

There are many factors that contributed to the dynamics of this crisis and it is likely that the procyclicality of fair market valuation is one of them. However, this does not validate the calls for abandoning fair value accounting during the downturn. After all, there were no such calls during the upturn. Changing accounting standards in the midst of the crisis could adversely affect investor confidence and should be avoided.

The main thesis of this article is that there is a need to enhance current accounting practices as part of a desirable set of reforms to strengthen financial systems. The amendments should not be restricted to the downturn or to illiquid conditions in markets, but rather consider the dynamics throughout the cycle, with a particular focus on the upturn. Otherwise, there may be a risk that in the upturn, valuations could be exaggerated and financial institutions may record as profits what in reality are risk premia that should be provisioned. This could distort the representation of the condition of the financial institutions as well as create incentives that could exacerbate the subsequent upturn. Thus in both up and down cycles, fair value accounting should be structured so that it contributes to good risk management and ensures that financial statements include adequate disclosure of methodologies, valuations and volatilities such that inherent uncertainties are well understood.

Going forward, there is a need for a policy dialogue between the accounting standard setters, the financial industry, and supervisors. Given the systemic implications of financial institutions, it is critical for these three stakeholders to join forces to better align risk management practices, supervisory regulations and accounting guidelines. While arriving at a final solution will require further work, the following principles could provide a direction to the debate.

A fair "fair value" with enhancements

The amendments to current accounting standards should take into account their implications on incentives and the information available for the asset. They should aim to contribute to, or at least should not impede, better risk management by financial institutions as well as promote better regulation.

The debate about proper valuation has been often framed in terms of reality and prudence. The present crisis has led to questions about the representation of "reality" by current valuation practices. It can be argued that these practices were not only less prudent than desirable, but led to a misrepresentation of the real risk profile and the performance of financial institutions. To the extent that assets and profits have been overvalued in good times, wrong incentives were created, leading to sharper declines in values and returns in bad times. As a result, in the medium term, shareholders, management, creditors, and regulators were not well-served.

Balance sheet volatility arising from fair value accounting raises new challenges to ensure the maintenance of adequate capital buffers. Such buffers need to be considered through the cycle, augmenting the capital position during boom cycles to withstand the burden on capital that stems from economic downturns, reflected in the enhanced risk of asset deterioration, rising loan delinquencies, lower recovery rates, and more difficult funding conditions. However, it is often stated that creating buffers to deal with expected liquidity or credit risks could distort "the reality". To some extent, this reflects a tension between the accountant approach to financial instruments valuation, the prudential approach, and the risk management approach. Usually this tension was mitigated by prudential regulators trying to accommodate some prudence within the limits allowed by the accounting rules, by accounting standard setters introducing minor changes in the standards, and by banks trying to exercise their risk management within the limits of the prudential and accounting rules. The crisis has shown that these partial solutions are not good enough, that much is at stake, and that it is necessary to resolve the tensions between valuation approaches across risk managers, accountants, and prudential supervisors and regulators, so as to ensure that accounting frameworks do not unduly contribute to potential financial instability.

All this suggests that a consideration of a fair value should not only use the last transaction price but also the information available about its price volatility and its evolution through previous cycles. Given the doubts that can surround valuations, fair value estimates should be supplemented by information on a financial instrument's price history, the variance around the fair value calculations, and management's forward-looking view of asset price progression and how it will impact the institution's balance sheet. Taking into consideration these elements would enhance fair values and represent better the actual financial situation of a firm. It could also close the gap with risk management practices and get much closer to the prudent valuation that financial stability requires. All this information, under an objective framework, can be used to make these adjustments an integral part of the fair value process. Adjustments could be in the form of statistically supported cushions that reflect actual risks contained in the portfolio.

Enhanced role of prudential supervisors

The role of prudential supervisors in reviewing the valuation and accounting of financial instruments has been always a thorny area, leading to a wide range of different supervisory practices. Some argue that some aspects of the valuation of financial products are accounting issues in which supervisors should not interfere, but instead ask for adjustments in their prudential domain. These may include increasing regulatory capital requirements, scrutinising more carefully internal processes and controls, as well as pricing and stress-testing methodologies. However, true and fair accounting rules are sometimes not supportive for applying forward-looking valuation and risk management principles. Both elements are important for prudential supervisors. Therefore it seems that one of the lessons is that convergence towards principles-based accounting is warranted, including a more active and better recognised role by supervisors in the valuation methodologies and provisioning of financial institutions.

Broader understanding

To further strengthen current valuation practices, there is a need to better understand the implications of accounting standards on incentives and on the behavior of financial institutions through the cycle and in stress conditions. However, one-time adjustments will not likely to be sufficient. There is a need to make continuous efforts to understand and analyse the dynamics of the business cycle and the implications of financial innovation, as part of the noise and uncertainties in financial markets may be transferred to valuations and balance sheets more rapidly, and intensify the implications for solvency and more broadly, financial stability. Better knowledge about the transmission channels will enhance the understanding of, and sensitivity to, risks. From the point of view of financial stability, rapid evolution of events and accompanying market and balance sheet adjustments can lead to rapid changes in the solvency situation of financial institutions. This calls for mandating deeper analysis and stipulating higher standards in risk management.

Better information and disclosure

Better information and disclosure is needed in several areas: the risk profile of the institution; the risk management process and governance of valuations; and a more comprehensive presentation of the adjustments and models used for valuation especially in complex financial products. Banks should also provide better disclosure on instrument-level sensitivity analysis (which would provide estimates of the effects of events that impact liquidity and volatility in various markets), at least for their largest exposures to structured instruments. US GAAP has no requirements for sensitivity disclosure for fair valued instruments. IFRS 7 (Financial Instruments: Disclosures) contain basic sensitivity analysis for general classes of risk but not for specific classes of assets.

An international dimension

Finally, there is a need for cross-border consistency for the accounting frameworks as well as between the accounting and regulatory frameworks. In globalised financial markets, the differences in approaches to deal with the issues discussed in this note are significant. This in itself is a weakness of the system. It burdens unnecessarily the risk management process of financial institutions and it may jeopardize the cross-border consistency that the global financial stability requires.

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